

A NOVEL GENE ASSOCIATED WITH REGULATION OF ADIPOSY AND INSULIN RESPONSE

ABSTRACT OF THE DISCLOSURE

This invention pertains to the identification and isolation of a gene
5 implicated in the fatty liver dystrophy (*fld*) phenotype. Mouse and human forms of the
novel gene, designated herein as *Lpin1/LPIN1* (mouse and human genes, respectively), are
identified. This invention additionally provides methods of screening for agents that alter
adipose tissue development. The methods involve contacting a cell containing a *Lpin1*
10 gene with a test agent; and detecting a change in the expression or activity of a *Lpin1* gene
product, where a difference in the expression or activity of *Lpin1* in the contacted cell
indicates that the agent alters or is likely to alter adipose tissue development. Also
provided are methods of identifying *Lpin1* mutations, and methods of mitigating
symptoms of lipodystrophy, obesity, diabetes, atherosclerosis and related pathologies.